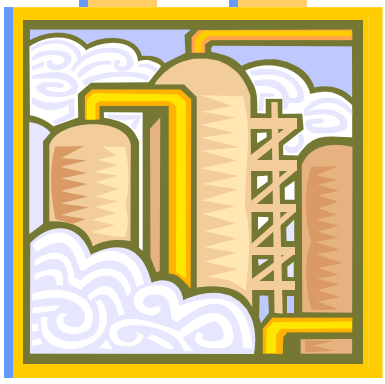
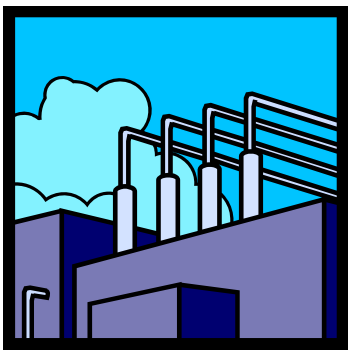
# Regulatory Impact Statement

# Temperature Compensation of Petrol & Diesel Fuel





# Regulatory Impact Statement
# Temperature Compensation of Petrol and Diesel Fuel

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*Submissions:*

**Written submissions on the Regulatory Impact Statement including any quantitative information to assist the assessment of the impact of the proposal should be addressed to the Director, Consumer and Business Affairs Victoria and posted to GPO Box 123A, Melbourne VIC 3001 or e-mailed to: christine.nigro@justice.vic.gov.au. Printed submissions should be accompanied by a diskette copy. Submissions must be received no later than 5 pm on Friday 14 December 2001.**

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# Contents

# Summary

Accurate measurement of goods sold is fundamental to the efficient operation of markets. It ensures that businesses or consumers can purchase goods knowing that they will not be "short changed", and that there will be consistency in transactions.

Most liquid petroleum products in Australia are currently sold wholesale on the basis of volume with no adjustment for the varying temperature of the product at the time of measurement. However, the volume of fuel expands with increases in temperature in the refining process. Independent fuel wholesalers/retailers have recently experienced a problem with "hot fuel" being delivered from refineries, resulting in these businesses being invoiced for a higher volume of fuel than they have available to sell once it has cooled.

The problem of "hot fuel" has become more common because of "just in time" production from refineries and more direct deliveries to retailers rather than fuel being stored and double handled before delivery to retailers. Some businesses have reported significant volume losses as a result of hot fuel and have been unable to negotiate satisfactory resolution from the oil companies.

It is apparent that the issue has existed for some time and, in spite of publicity and action by service station proprietors, the oil companies have to date failed to introduce voluntary measures which stakeholders view as dealing adequately with the problem. There is no indication that the problem would be reduced over time as renegotiated prices takes into account the use of "just-in-time".

The independents play an important role in ensuring a competitive fuel market. It is therefore essential that their transactions with the oil majors are transparent and do not detract from their ability to compete. The proposal assessed in this Regulatory Impact Statement (RIS) seeks to increase the transparency of fuel measurement and pricing in the oil industry by requiring temperature compensation at the oil company refinery or terminal.

Model Uniform Trade Measurement Legislation (UTML), which regulates trade measurements nationally, currently does not provide for measurements of any liquid to be compensated for changes in volume due to changes in temperature. An amendment to the UTML is proposed for mandatory temperature compensation of fuel from refineries and terminals to the Australian Standard of 15° Celsius.

The cost of implementing this decision should be low because volume is already temperature compensated from refineries and terminals for excise purposes and for product exchange and therefore measurement equipment is already in place. The benefits relate to greater transparency and certainty in transactions, consistent with a more competitive marketplace.

The RIS found that an alternative proposal to require fuel that has been stored in depots before delivery to retailers to also be temperature compensated would involve substantial costs and is not considered the best option at this stage in terms of costs and benefits. Similarly, mandatory temperature compensation at the retail level would involve considerable costs and is assessed as an inferior alternative.

The industry has been aware of this problem for some time and voluntary compliance is assessed as unlikely to satisfactorily resolve the problem. Action under trade practices legislation provides a problematic and expensive means for resolving the issue.

The regulatory proposal is considered the best alternative to achieve the objective of increasing the transparency of fuel temperature measurement and pricing in the oil industry. Implementation would be straightforward and its costs to industry and government would be negligible. The proposal would address the perceived financial disadvantage currently experienced by independent operators who consider that they are paying for fuel that they do not receive. There is potential for benefits to flow to motorists. However, whether this is achieved would depend on the complex interaction of players at both the wholesale and retail level within the market.

# 1 Objective of the Regulatory Proposal

The objective of the regulatory proposal is to increase the transparency of volume measurement and pricing of petrol and diesel fuel within the oil industry. It seeks to address the problem of distributors and retailers being supplied short-measure fuel by oil companies by requiring invoices to be calculated by volume at a specified temperature, thereby creating certainty of the actual volume of fuel paid for and received.

# 2 Nature and Extent of the Problem

## The "hot fuel" problem

At present, except for oil company exchanges, petroleum products in Australia are sold at both wholesale and retail level on the basis of volume with no adjustment for the varying temperature of the product at the time of sale. Problems have recently been experienced with "hot fuel" being delivered mainly to service stations. Hot fuel deliveries are a problem because the volume of fuel expands with increases in temperature in the refining process and, contracts when it cools. Service stations are invoiced for a higher volume of fuel than they have available to sell once it has cooled in their storage tanks.

Product shrinkage results from heat loss during transport and then prolonged storage in the distributor's or retailer's tanks that are usually located underground. The reseller is invoiced for a fuel volume determined when the tanker is loaded and the fuel is hotter, prior to its volume shrinking from heat loss. Fuel shrinkage is a significant issue for independent wholesalers and retailers in particular who do not generally have access to price support or profitability support.

Some independent fuel wholesalers/retailers in Victoria have reported significant volume losses and claim to have incurred substantial financial losses as a result of hot fuel. Independent wholesalers and retailers have been unable to negotiate satisfactory resolution from the oil companies. Some oil companies do make allowance for losses, but independents claim this to be insufficient to cover losses when fuel is delivered very hot.

When oil companies calculate excise to be paid on petrol and diesel fuel, the volume is temperature compensated to the Australian Standard of 15° Celsius. However, independent wholesalers/retailers claim they are paying excise on "uncorrected" volumes of fuel. The perception of the independents is that the oil companies receive a windfall gain of the excise paid by independents on the fuel that has disappeared, thus undermining their competitiveness. This issue is discussed further in Section 6.

The independents play an important role in ensuring a competitive fuel market in Australia. It is therefore essential that their transactions with the oil majors are transparent and do not detract from their ability to compete.

Legislation to address temperature compensation and other issues was proposed during 2000 in a Private Member's Bill in the Victorian Parliament. Agreement was reached to withdraw temperature compensation provisions on the understanding that Victoria would propose a national approach through the model Uniform Trade Measurement Legislation (UTML). The regulatory proposal assessed by this RIS is the proposal put by Victoria for consideration by the Ministerial Council on Consumer Affairs (MCCA).

On 6 July 2001, MCCA agreed in principle to introduce temperature compensation to the Australian Standard temperature as set from time to time (or to15° Celsius subject to advice from the Parliamentary Counsel's Committee) for petrol and diesel fuel loaded at refineries and terminals across Australia. This agreement was subject to completion of a regulatory

impact assessment demonstrating that the proposal is in the public interest, and approval by individual governments.

## Nature of volume variations with changes in temperature

All liquids expand and contract to some extent with changes in temperature. However, the changes are significant with some petroleum products. In the case of petrol, it expands and contracts at 0.0011 of its volume per degree Celsius variation. As an example, a standard load of 30,000 litres of petrol measured at a terminal or refinery at 40°C will shrink to 29,175 litres when cooled to 15°C, a difference of 825 litres or 2.8% less product than is charged.

The Australian Standard for measurement of fuel volume is set out in "Petroleum Liquids and Gasses – Measurement – Standard Reference Conditions AS 2649-1983". This Standard adopts the international reference temperature of 15°C. This Standard temperature is applied when fuel is exchanged between major oil companies and when excise is levied, but is not applied to other fuel purchases.

International trade transfers between domestic oil companies and excise duty payments are made on a volume-corrected basis to the international reference temperature of 15°C. Singapore spot product prices assume sales on a corrected basis. Excise is paid to the Commonwealth Government by petroleum companies on the basis of the volume of the petroleum corrected to a reference temperature of 15°C, in accordance with international agreements to which all oil companies are party.

Trade measurement legislation in Australia (State and Territory legislation adopted from the agreed model Uniform Trade Measurement Legislation) has relevant heads of power but does not provide currently for measurements of any liquid to be compensated for changes in volume due to changes in temperature.

## Changes in fuel delivery practices

The effect of temperature on fuel has been exacerbated recently due to changes in refinery technology, terminal rationalisation, the operation of joint terminals by oil majors, and shorter distribution channels and "just-in-time" inventory control practices. This means that in many cases, petrol and diesel fuel are now delivered directly from the gantry flowmeters at the refinery into tankers.

There are more direct deliveries to retailers, rather than fuel being stored and double handled before delivery to retailers. There is virtually no settling or cooling-off time in terminal storage tanks before the petrol and diesel fuel is measured hot and trucked directly to either service stations or bulk depot facilities. Independent operators in Victoria have provided trade measurement officials with dockets indicating measured temperatures as high as 50°C.

## Who is affected by the hot fuel problem?

Volume losses from hot fuel deliveries impact on industry sectors in different ways. Distributors buying product hot from oil companies are not disadvantaged if the product is delivered directly to retailers or other commercial customers. However, if product is delivered to a distributor's depot and cools in the depot before delivery, then the distributor can experience volume losses from that invoiced.

Retailers receiving hot fuel can be disadvantaged to varying degrees, depending on their contractual situation or relationship with the oil companies. Oil companies vary in their approach to temperature compensation for their customers. Franchisees are usually guaranteed approximately three cents per litre margin but may be disadvantaged depending on their contractual arrangement if provision for temperature compensation is not sufficient. At least one company has made provision in some contracts with its franchisees and branded independents for an allowance for fuel losses, which can include fuel loss through temperature, evaporation or spillage.

Commission agent sites (company owned and operated sites) are likely not to be impacted because they are paid on a commission basis. Other companies argue that temperature issues are covered in the normal commercial negotiation of price. Independent retailers in particular usually do not have contracts that make adequate provision for volume losses.
The major oil companies exchange product between themselves in States where they do not operate a refinery. Oil companies receiving product on a product exchange basis from refiners do so on a temperature compensated basis and therefore are not disadvantaged by temperature.

Purchasing product from overseas terminals does not disadvantage oil companies importing fuel. Oil companies importing fuel, purchase fuel on a temperature compensated basis on international markets, including the Singapore Spot Purchase market.

There is a perception held that oil companies supplying hot fuel receive a financial windfall that can either result in larger profits or can be used to subsidise the retail operations of oil company sites and undermine the competitiveness of independents. The pricing and distributional aspects of temperature compensation are examined further in Section 6.

Motorists are not directly affected by hot fuel deliveries if the fuel cools to ambient temperatures in underground storage tanks by the time it is sold. However, there will be differences in the ambient temperature at which fuel is sold to motorists across States and Territories, due to the different climatic conditions. This is examined further in Section 7.

## Regional impacts

The distance from the refinery to the end customer impacts the significance of the problem for wholesalers and retailers in the different States and Territories. Those located close to the metropolitan area are more likely to receive full compartment fuel deliveries direct from a refinery. A relatively small proportion is supplied to tank storage at regional depots, particularly in remote areas. For these retailers receiving deliveries via a distributor's depot, temperature compensation would only be a problem if 'hot' fuel were delivered from depots.

While fuel hauled to regional depots is likely to be delivered at temperatures closer to the ambient air temperatures, the temperature at which the fuel purchased is measured at the refinery/terminal. The extent of the hot fuel problem for depot operators in these cases will depend on the ambient temperature of the region. The problem is likely to be much greater in cold climates such as winter in Canberra. Concerns with significant volume reductions in petrol delivered from Sydney refineries to underground tanks in Canberra, has led to the ACT introducing legislation to address the issue (see Section 4).

Areas in Northern Australia rarely experience the temperature lows of cities such as Canberra and Melbourne, further limiting temperature variations between terminal and delivery. The WA Office of Fair Trading has advised that while ambient temperatures generally range between 18°C and 23°C of fuel delivered in WA, greater extremes are evident in Northern WA where the temperature ranges are often in the 30s. In this environment evaporative losses are likely to be more significant than the effect of variations in temperature between exchange points.

Petrol and diesel fuel being delivered hot from the terminal is only a very minor issue in Tasmania or the Northern Territory where fuel is shipped from refineries in Victoria and Singapore respectively, and therefore has time to cool. It is then measured for sale at near ambient temperature.

## Market failure

Many of the problems which governments seek to redress through intervention originate in some sort of market failure. In this context, the word "market" is used broadly and encompasses a wide range of potential interactions between members of the community, be they individuals, governments or business. Market failure can occur for a number of reasons, including through a lack of transparency of information between buyers and sellers. In the case of the fuel industry, market failure arises from the lack of transparency in the volume measurement of fuel and fuel pricing**.**

The primary function of trade measurement regulation is to ensure “good measurement” for all parties to transactions. If businesses do not have confidence in the integrity of the trade measurement system, parties to transactions must expend additional resources searching, negotiating, transacting and disputing. The notion of “good measurement” also involves fairness and transparency so that all parties are treated equally as far as measurements are concerned; that is, there are no systematic biases favouring one party over another.

Inaccuracies in trade measurement can undermine the proper functioning of markets and may warrant safeguards in market practices to reduce mismeasurement to efficient levels. From an economic point of view, improved accuracy for trade measurements have an efficiency value by reducing the transaction costs between buyers and sellers and increased confidence in markets. Improved trade measurements also have an equity effect by removing any bias of the measurement in the transaction.

The transaction that is the subject of most focus is that between the refinery and the independent wholesalers/retailers. It is apparent that the independents are fully aware of the volume disparity due to changes in temperature. However, in spite of approaches to the major oil companies and publicity, even large independents have been unsuccessful in being able to negotiate access to product on a temperature-compensated basis.

The temperature compensation issue has existed for some time and the industry has to date failed to introduce adequate voluntary measures to deal with it. What would seem to be at the heart of this problem is the market power exercised by the oil companies in negotiations with some independent wholesalers/retailers. As the industry is comprised of a handful of oil companies, the independents have little opportunity to change the behaviour of these companies by taking their business elsewhere.

This structural aspect of fuel marketing is not directly addressed by the proposed regulations. The proposed regulations seek to address the lack of transparency in volume measurement of fuel and the economic inefficiencies and inequities that stem from this aspect of the marketing of fuel.

However, simply identifying a market failure does not immediately justify Government intervention. The implementation of regulations may involve considerable resource costs or give rise to unintended consequences. The critical questions are whether or not the problem is of sufficient magnitude to justify Government action and whether or not the chosen policy is the best alternative. Some margin of error is tolerated in any trade measurement system - the costs and benefits of further accuracy should guide the required level of precision.

Consequently, the central consideration in this RIS is the cost of achieving information transparency in the fuel industry, and the likely benefits to be derived, as well as the costs and benefits of feasible alternatives.

# 3 Industry Background

## The Structure of fuel marketing in Australia

Four major oil companies dominate the current fuel market in Australia: Caltex, BP, Mobil and Shell. The oil companies are vertically integrated across refining, wholesaling, distribution and retailing, as well as having interests in petroleum exploration.

The four oil companies operate terminals in most States, usually supplied by one or more refineries operating in the State. In some States there is also an independent import terminal, such as the Hastings Terminal in Victoria.

Australia has eight refineries. The ownership and locations of the refineries are:

- Caltex: Lytton, Queensland, New South Wales;
- BP: Kwinana, Western Australia and Bulwer Island, Queensland;
- Mobil: Altona, Victoria and Port Stanvac, South Australia;
- Shell: Geelong, Victoria and Clyde, New South Wales

The four major oil companies participate in the wholesale and retail market. In those States where these companies do not operate refineries, product is sourced from the refineries in the State through product exchange arrangements.

Distributors operating in the wholesale sector of the market can have specific affiliations with the oil majors or be independent. Distributors, who are supplied by the oil companies, generally supply country outlets. Many of the distributors are part owned by the oil companies and work out of oil company owned depots under lease or other agreements.

## Industry trends

The number of distributors supplied by oil companies has declined rapidly over recent years due to depot rationalisation by the oil companies. Further pressures for rationalisation have resulted from less regulation of delivery modes and the promotion of direct deliveries from refinery/terminals to retail sites as a consequence of improvements in transport and increasing average site throughput. The cost savings achievable through the use of high volume trucks delivering to high volume retail sites has encouraged oil companies to increasingly by-pass distributors, even in country areas.

The number of distributors has decreased from 1700 in the 1980's to currently about 200 entities. The 200 distributors in Australia operate about 600 depots. Industry analysts expect further reductions (of about 50) in the number of distributors over the next few years.

The number of service stations has also decreased from 12,000 in the 1980's to about 8,000 currently and further significant reductions are expected over the next few years. The majors own or hold the head lease for many retail sites, and operate through commission agent or franchisee arrangements. Oil companies usually directly supply their owned and operated outlets and the leased/franchised outlets in the metropolitan areas.

Independent wholesalers/retailers comprise a differing, but reasonably significant proportion of retail sites across major cities. Large independents in Victoria include Liberty and Woolworths. The large independents may own and operate sites, supply independently owned but branded sites and supply independently owned but not branded sites. The large independents may obtain fuel from the oil majors or from imports. However, there are also many smaller independents that may own and operate one or a number of sites and possibly supply other sites. Many are single, low volume sites without the economies of a chain network and with little countervailing market power.

## Structure of fuel deliveries

The distribution practices for delivering fuel is an important consideration in assessing the extent of the fuel temperature problem. The general practice is for distributors to:

- Φ deliver full compartments direct into metropolitan and regional service stations after pick up from refineries/terminals, and
- Φ supply from tank storage at the depot in small deliveries to farms and commercial premises.

A high proportion of fuel is delivered directly to service stations, rather than passing through depots. More efficient distribution networks mean that small drops are avoided and full loads are delivered mainly to service station tanks but also to depot storage tanks.

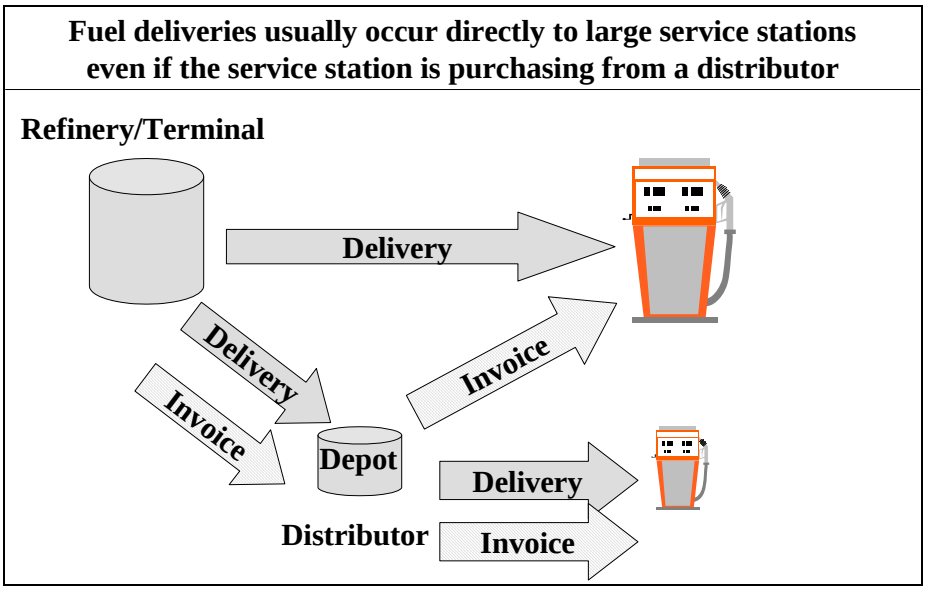
Estimates developed in consultation with the Australian Institute of Petroleum (AIP) and the Australian Petroleum Agents & Distributors Association (APADA) indicate that on average 90% - 95% of the volume of fuel deliveries are direct to service stations and commercial and industrial end-users, compared to 5%-10% of deliveries to depots.

The significance of this is that fuel delivered to depots cools for a few days before being loaded onto smaller tankers for delivery to commercial premises and farms – very little is delivered from depots to service stations.

Distributors in rural areas often operate depots from which smaller deliveries are made. However, with recent restructuring, most deliveries to retailers are now made directly en route from the refinery/terminal, although the actual purchase is made from the distributor who then issues an invoice. The distribution and invoicing arrangements are illustrated in **Box 1** below.

### BOX 1: Fuel Delivery and Invoicing Arrangements

**Fuel deliveries usually occur directly to large service stations even if the service station is purchasing from a distributor**



## Competition in the market

The existence of independents is important to the competitive fuel market in Australia. While the market structure of vertically integrated oil companies can deliver benefits in terms of increased efficiency of operation, the scale and breadth of the oil companies makes it possible to underwrite price discounting which can threaten the viability of independent operators. The oil companies can manage the risks inherent in deep discounting, but it frequently results in significant price fluctuations.

The ACCC in its "Inquiry into the Petroleum Products Declaration" (1996) examined the prices and competitive conditions under which petrol and diesel fuel are sold. The ACCC concluded that oil companies "have substantial market power in relation to petroleum products, largely because pressures from independents, importers and buyers are relatively weak, concentration levels and entry barriers are high, and because of the breadth and depth of the horizontal and vertical relationships that have developed. As a consequence, the oil companies have a strong influence on prices and on the terms and conditions of supply throughout distribution and retailing". The ACCC noted that "even so, competition is seen as sufficient in the metropolitan areas of some of the larger cities where independents have a greater presence"(Main Report Volume 1 p 137).

Independent wholesalers/retailers in Victoria have recently alleged that the oil majors set retail prices below the "buy price" of the independents, and have questioned the fairness of the market. It is in this competitive market environment that independents claim that receipt of deliveries of fuel that have not been temperature compensated endangers their viability.

# 4 History of Temperature Compensation

## Previous studies

There have been calls from various bodies over recent years to have mandatory temperature compensation for sales to distributors, retailers and motorists at the pump. The issue of temperature compensation to the retail level had been under review since 1989 by the former Ministerial Council (SCOCAM, now MCCA) with varying views expressed by the stakeholders about the costs and benefits. In the main, these considerations have focussed on the costs and benefits of introducing temperature compensation at both the wholesale and retail level.

The issue was considered in 1989 by the Standing Committee on Trade Measurement (SCTM) which resolved that sales to service stations should be temperature compensated and that a study be conducted to determine the variation in retail sale temperatures across Australia. The NSW Minister for Consumer Affairs requested the National Standards Commission (NSC) to conduct the study.

The NSC found that the temperature of retail sales varied from 6°C to 35°C and that the average temperature of 20°C resulted in significant inequity between motorists across Australia. The NSC concluded that, to ensure equity, temperature compensation should be introduced at both the wholesale and the retail levels.

In 1991, on the initiative of the NSC, SCOCAM agreed in principle that the UTML be amended to provide for petroleum products to be sold either by volume corrected to 15°C or by mass, subject to a satisfactory cost benefit analysis. In 1992, SCOCAM re-confirmed its position and supported in-principle the phased-in introduction of temperature-compensating measuring instruments, subject to further consultation with industry and consumers. In 1993 the Ministerial Council agreed to re-consider its position following final reports from the SCTM, the Industry Commission (IC) and the CSIRO.

In 1992 Access Economics reviewed the NSC study on behalf of the Australian Institute of Petroleum (AIP). Access Economics viewed the problem as an equity issue and the benefits to be derived from temperature compensation to be largely distributional ones. Access Economics concluded that temperature compensation to the retail level was not justified on cost grounds.

The IC (now Productivity Commission) investigated this issue in its "Inquiry into Petroleum Products" (1994) and concluded that mandatory temperature compensation was not warranted on economic efficiency grounds. The IC view was that “based on available data, there is no evidence of a problem sufficient to justify the mandatory introduction of temperature correction. Costs of correction may be large; the benefits, if any, would not be available until perhaps the second decade of the next century; and in any case self-correcting forces are at work in the market place”(Inquiry Report p 249). The Commission’s main contention was that the market place is competitive and therefore buyers and sellers will make adjustments to offset expected measurement errors.

In 1996, AIP issued the CSIRO’s *Volume – Temperature Profile Study*. Following a twelve-month study of fuel temperatures across Australia, the CSIRO found there to

be no national benefit to be derived from a change to temperature compensation of petrol.

In 1996 the Ministerial Council on Consumer Affairs (MCCA) decided that the capital and ongoing costs of temperature compensation at the wholesale and retail levels outweighed any potential benefits to consumers and removed the item from the MCCA Strategic National Agenda.

**It is important to emphasise that the current regulatory proposal comes about primarily because of changed production and marketing techniques that have led to hot fuel deliveries from refineries and terminals.** This phenomenon has only occurred in recent years; therefore the technical studies that preceded these changed market circumstances are not fully relevant to the costs and benefits of the current regulatory proposal.

The main emphasis of the studies was on introducing measures to adopt temperature compensation throughout the whole industry; that is both wholesale and retail. The bulk of the costs, such as the cost of converting petrol pumps to temperature compensate fuel sold to motorists, are relevant only to the assessment of regulatory alternatives which extend temperature compensation to all wholesale and retail levels.

The cost estimates from the various studies are discussed in Section 6, which looks at costs and benefits of the regulatory proposal and alternatives.

## ACT legislation

Concerns over temperature volume changes have led to legislative action in the Australian Capital Territory. The issue of temperature compensation is regulated in the ACT through the *Fair Trading (Fuel Prices) (Amendment) Act* 1999.

In presenting the Act, the responsible Minister said that "the climate in Sydney where our petrol comes from is warmer than Canberra…consequently the temperature of petrol when it leaves Sydney will always be warmer than when it is later transferred into underground tanks in a service station in Canberra. The effect of this temperature differential means that over the course of the average year all service stations in Canberra will have paid the oil companies for approximately 1% - 1.5% more than they would have available to sell"(Hansard. 2 July 1999).

The ACT legislation requires the volume of fuel in a regulated transfer to be measured as if the fuel were at 15°C. A regulated transfer is a single consignment of fuel that is at least 2,000 litres and is delivered to or withdrawn from a place in the ACT (that is, from a depot). In May 2001, the four major companies were delivering temperature compensated fuel for direct sales from the refineries and distribution depots to independent retailers in the ACT. To comply with the legislation, local depots are currently installing temperature-compensating equipment at the gantry level and compliance will commence in the near future.

# 5 Description of the Proposed Statutory Rule

## Proposed Uniform Trade Measurement Scheme

Legislation to address temperature compensation and other issues was proposed during 2000 in a Private Member's Bill in the Victorian Parliament. Agreement was reached to withdraw temperature compensation from the Bill on the understanding that Victoria would propose a national approach through amending the model Uniform Trade Measurement Legislation (UTML). The proposal was subsequently referred to MCCA as the forum responsible for approving the introduction of such legislation.

The importance of taking a national approach to temperature compensation was emphasised by the oil companies and other stakeholders during consultation on the proposal. The AIP submitted to the Victorian Government that the industry believes that a national approach to temperature compensation at the refinery and import terminal level would ensure a level playing field in Australia, and the best possible result for consumers. However, the AIP does not support extending temperature compensation beyond the refinery/terminal level.

National action on this issue is considered appropriate given the movement of product across State boundaries. Suppliers of petroleum product in Australia operate in a national market with fuel supply networks flowing across State and Territory borders and oil companies engaging in product exchange and other horizontal arrangements. If temperature compensation were to be introduced by some States/Territories and not others, it would be inequitable for wholesalers/retailers, particularly in border areas, as only some fuel deliveries would be temperature compensated.

## Proposed benchmark temperature

In 1949 oil companies sought and obtained an international agreement setting an international reference temperature of 15°C for all calculations of measured quantities in international trade. Since then, tanker and pipeline deliveries of fuel to terminals and product exchange between oil majors have been temperature corrected to volume at 15°C.

To ensure consistency and uniformity in the tax base, the Australian Taxation Office uses 15°C (formerly 60° Fahrenheit) as the reference temperature to measure petroleum products for the calculation of excise duty.

In 1983, the former Standards Association of Australia (now Standards Australia) prepared the Petroleum Liquids and Gasses – Measurement – Standard Reference Conditions AS 2649-1983. This Standard refers to the reference temperature of 15°C and is in line with Australia's obligations under the World Trade Organisation's Code of Practice, to adopt international Standards where possible. While compliance with the Australian Standard is voluntary, the AIP, on behalf of petroleum product producers and refiners, and the relevant government authorities have agreed to the Standard.

The Australian Standard referred to is a voluntary Standard and reflects the international position. Some industry representatives suggest that this

temperature is more relevant to temperatures in Europe rather than Australia and that 20°C would be a more relevant temperature for Australian conditions and may seek amendment of the Standard to reflect this.

Therefore, the proposed regulation references (subject to Parliamentary Counsel advice) the Australian Standard. Any subsequent change to the Standard would not require an amendment to the legislation.

## Proposed regulatory scheme

The proposed amendment to the UTML would have the impact of requiring all petrol and diesel fuel directly delivered from refineries and terminals to wholesalers/retailers to be temperature compensated (whether purchased from oil majors or from distributors). Only product that goes into storage in depots before it is delivered would not have to be temperature compensated.

The form of the regulations can be described in terms of the Victorian legislation. The relevant regulatory instruments are the *Trade Measurement Act* 1995 and the *Trade Measurement Regulations* 1995. The changes that would be required to the Victorian regulatory scheme described below are illustrative of the changes that would be mirrored in the legislation of the other States and Territories. Queensland's Department of Tourism, Racing and Fair Trading would develop the final form of the legislative changes.

While the UTML has not yet been enacted in Western Australia, it is proposed that this be advanced in 2002. In the event that the new legislation is not in place at the time temperature compensation is implemented, then alternative regulatory mechanisms would be considered to achieve a like outcome.

Section 26 of the Victorian Act (and the model Act) provides for articles or articles of a class prescribed for this section to be sold at a price determined by reference to a measurement of quantity in the unit of measurement required by the regulations. Regulation 92 of the *Trade Measurement Regulations* 1995 (Regulation 4 of the model Trade Measurement (Miscellaneous) Regulations) is the regulation that prescribes articles for the purpose of Section 26 of the Act. Currently, only certain alcoholic beverages are prescribed.

Section 80(2)(o) of the Victorian Act (and the model Act) provides regulation-making powers in relation to the sale of articles by reference to measurement or a specified kind or unit of measurement. Regulation 93 of the *Trade Measurement Regulations* 1995 (Regulation 4 of the Trade Measurement (Miscellaneous) Regulations) is the regulation that prescribes measurement or units of measurement under Section 80(2)(o). Currently there are no specified kinds of units of measurement to allow the measurement of a liquid to be at a specified temperature.

Section 6 of the Victorian Act (and the model Act) provides power for the regulations to exempt from the operation of the Act, or specified provisions of the Act, a specified person, matter, article or transaction or a specified class of persons, matters, articles or transactions.

The following is the proposal on how the regulation may be structured, utilising the powers of Sections 26, 80(2)(o) and 6:

- Petrol and diesel fuel to be sold by volume at a specified temperature in certain cases.

- The sale of a quantity of petrol or diesel fuel when measured by volume must be at a price determined by reference to the measurement of the quantity in litres at the Australian Standard temperature (AS 2649-1983), currently 15°C.
- Pursuant to Section 6 of the Act the requirements of the regulation do not apply to-
    (a) retail transactions; and
    (b) wholesale transactions where petrol or diesel fuel is re-loaded from storage and re-measured following measurement at:
        - an oil refinery; or
        - a facility where petrol or diesel fuel is imported; or
        - a distribution facility connected by product transfer pipeline to an oil refinery or facility where petrol or diesel fuel is imported.

## Proposed enforcement regime

Currently, invoices issued by oil companies for transactions of petrol and diesel fuel indicate the measurement in litres without reference to the measured temperature. While there would be no requirement for oil companies to indicate on invoices that the stated volume is corrected, companies would be required to ensure that the measurement printed on their invoices and other measurement documentation supplied to the purchaser is the measurement at the Australian Standard temperature. It is expected that companies would re-format the printing of their invoices and other measurement documentation supplied to the purchaser.

Most gantry flowmeters are currently capable of performing temperature compensated measurement to 15°C for the purpose of determining Commonwealth excise. Therefore no physical modifications would be required to the flowmeters to ensure compliance, other than to modify the printing of invoices and other documentation. However, in the Northern Territory temperature correction devices are not fitted to the gantry flowmeters. Temperature is read by means of in-line thermometers when fuel is loaded, corresponding adjustments of volume are then made when the invoice is prepared. Temperature and volume adjustments could continue to be made in this way under the proposed regulatory scheme.

In terms of monitoring compliance, trade measurement authorities of the States and Territories would undertake periodic inspections. Flowmeters at refinery/terminals are currently inspected under uniform trade measurement legislation of the States and Territories. Inspectors are already inspecting trade-measuring instruments at refinery/terminals but they currently do not look at the temperature compensation function used for Commonwealth excise purposes. This inspection task could be readily extended.

Following initial inspection, it is expected that trade measurement authorities would not need to increase their inspection rates above current rate, as the temperature compensation device is a part of an approved measuring system requiring no more scrutiny than any other part. In Victoria, no additional resources are anticipated due to the small number of these instruments in use.

The temperature-compensating device on a gantry flowmeter is an integral part of the measuring system and cannot be readily adjusted by unauthorised persons. Once

the flowmeter's settings have been adjusted to achieve compliance, it is certified to make it legal for trade use. If the proposed amendment is adopted, it is expected that trade measurement authorities would conduct initial inspections to determine if invoices and other measurement documentation comply, and the flowmeter has been certified using the new testing procedures that provide for temperature compensation.

Oil companies currently contract "servicing licensees" to certify that trade-measuring instruments comply with technical requirements and the trade measurement legislation. This includes certifying the compliance of the printing from approved devices of tickets that are the primary source of measurement data displayed on the measuring instrument. This provides further certainty about the integrity of measuring instruments.

## Proposed penalties for non-compliance

The proposed amendment is made under Section 26 of the Trade Measurement Acts of the States and Territories. The penalty for an offence against this Section is $5,000 for an individual or $25,000 for a body corporate. It is an offence under Section 8 for a person to cause a measuring instrument to give a measurement or other information that is incorrect. It is also an offence under Section 18 of the Acts for a person to do anything to a measuring instrument that bears an inspector's or licensee's mark that affects its metrological performance. A penalty of $20,000 for an individual or $100,000 for a body corporate applies for each offence against Section 8 or Section 18.

It is expected that the above penalties would be sufficient to discourage offences against the Act. As an example, loading one tanker compartment on one truck where the measurement was not compensated to the reference temperature would be an offence, so there could be multiple offences for loading one vehicle.

## Location of facilities

The proposed amendment would apply only to oil companies that measure petrol and diesel fuel at refineries, importation facilities and distribution facilities connected by product transfer pipeline to a refinery or importation facility for transactions. These sites have the potential to measure fuel that is hot due to the refining process. Measurements at sites outside the refineries or facilities do not come within the scope of the amendment - that is, measurements at depots and retail sites. The sites to which the proposed amendment would apply are listed (to the best of our knowledge) at *Attachment 1*.

# 6 Impact Analysis

## Identified Affected Parties

Volume losses from hot fuel and the regulatory options impact on the following groups.

- **Oil companies** refining and selling hot fuel - there is a perception held that oil companies supplying hot fuel receive a financial windfall that can either result in larger profits or can be used to subsidise the retail operations of oil company sites and undermine the competitiveness of independents. Regulatory options would impose costs on this sector.

- **Distributors** buying product hot from oil companies are not disadvantaged if the product is delivered directly to retailers or other commercial customers. However, if product is delivered to a distributor's depot and cools in the depot before delivery, then the distributor can experience volume losses from that invoiced.

- **Independent retailers** receiving hot fuel are affected because they usually do not have contracts that make adequate provision for temperature compensation.

- **Retailers** receiving hot fuel can be affected to varying degrees, depending on their contractual situation or relationship with the oil companies. Commission agent sites are likely not to be impacted because they are paid a commission. Franchisees may be impacted depending on their contractual arrangements if provision for losses is not sufficient. There is also a perception that the sales of hot fuel enable oil companies to provide price support and profitability support to their franchisees. Concerns have been raised that this support may be reduced or removed and thus have a negative impact on retail prices. However, the price outcome of implementing temperature compensation is difficult to predict. It is clear however, that to the extent that temperature correction is likely to benefit the independent operators, this should enhance competition in the industry to the benefit of consumers.

- **Motorists** are not directly affected by hot fuel deliveries if the fuel cools to ambient temperatures in underground storage tanks by the time it is sold. However, there will be differences in the ambient temperature at which fuel is sold to motorists across States and Territories, due to the different climatic conditions.

- **Government** would incur costs in the event of implementing a regulatory option.

The potential impact on the key affected parties is summarised at the conclusion of the assessment of the costs and benefits of each of the options considered in this section.

## OPTION 1: Temperature compensation at refinery/terminals (the regulatory proposal)

The option of temperature compensation at refinery/terminals would cover all deliveries direct from refineries/terminals, whether purchased from a major oil company or a distributor, and would apply to sales to all resellers, including independents and franchisees. The proposal is not intended to cover other wholesale sales and retail sales and would not apply to sales by commission agents, which form only a small proportion of the market.

### *Benefits*

The key benefits of Option 1 are related to removing any bias of the measurement in transactions. They are essentially distributional benefits and relate to improved equity between oil companies and fuel wholesalers/retailers. From an economic point of view, improved accuracy for trade measurements and transparent market information also have an efficiency value by reducing the transaction costs between buyers and sellers and increasing confidence in markets.

The proposal may lead to an impact in terms of the distribution of income to industry sectors. Currently the distribution of the receipts of fuel sales is impacted by wholesalers/retailers having available for sale a lesser volume of fuel than paid for as a result of fuel shrinkage due to falling temperature.

Oil companies currently vary in their approach to temperature compensation. While at least one company has made provision in some contracts with its franchisees and branded independents for an allowance for fuel losses, which can include fuel loss through temperature, other companies argue that temperature issues are covered in the normal commercial price negotiation. Therefore, temperature compensation at the refinery level would impact differently on different customer classes and customers of different companies, depending on whether or not those customers have contracts/arrangements that make provision for temperature compensation.

Independent retailers are potentially the key beneficiaries of the regulatory proposal. As discussed in Section 3, the existence of independents is important to the competitive fuel market in Australia. Enhancing transparency of pricing should improve the negotiation position of independent retailers/distributors and lead to increased wholesale competition, and ultimately lead to a benefit to consumers.

The oil companies view temperature compensation as a trade measurement issue and not a pricing issue, and that the price will vary according to the market value of energy, either ambient litres or temperature compensated litres. That is, the unit value of energy will not change, but there will be an increase in the energy content of a “litre” of fuel if it is compensated to a temperature that is lower than the measured temperature.

The AIP submitted to the Victorian Government that the push by some service station operators for temperature compensation confuses trade measurement with pricing. The AIP has also submitted that due to the competitive nature of the industry no one significantly benefits from the differing temperatures at which fuel is sold, and there is no net benefit or detriment at any point in the supply chain. This accords with the view of the IC in its 1994 Inquiry into petroleum products

which concluded that the market place is competitive.

The AIP has estimated the volume adjustment implied by the proposed regulation to be valued at $100 million per annum. However in a dynamic market, the oil majors are likely to seek higher average wholesale prices to maintain receipts to previous levels. In this event, the net advantage to the independents would be minimal. However, the major independents are significant players in the market and may limit the extent of any price increases by the oil companies.

**Price impact**

In competitive markets with significant independents the price outcome of implementing temperature compensation is difficult to predict. While it is expected that there would be pressure on prices at the wholesale level as a result of the introduction of temperature compensation, this needs to be weighed against the ability of major independents in particular to retain some of the financial gain.

In the absence of wholesale price increases, temperature compensation to volume at 15°C of 30,000 litres of fuel purchased at a buying price of 90 cents per litre (cpl) at 40°C would mean a net financial gain to the reseller of $705.40 on a selling price of 95 cpl. Alternatively, it would mean a reduction in receipts to the oil major of an equivalent amount. The financial impact of hot fuel on retailers/distributors and on tax revenue is illustrated in the **Box 2**.

There is a perception among some independent wholesalers/retailers that the oil companies are receiving a "windfall gain" because the fuel excise they actually pay (at 15°C) is significantly less than what they would be paying if the excise was calculated on the "hot fuel" volumes. However, the reality is that the excise that is legally owing to the Commonwealth is paid.

The introduction of temperature compensation would align the temperature at which wholesale sales are calculated with the existing requirements in relation to excise (i.e. measured at 15°C), thereby creating certainty about the volume of fuel paid for and received and the status of excise payments.

It is relevant to note that an amendment to the *Fair Trading (Fuel Prices) Act* 1999 was passed by the ACT Parliament in June 2001, which, among other matters, prohibits the oil majors from charging for the temperature compensation of fuel. The amendment was a response to increases in wholesale prices of around 0.5 cents per litre experienced by independents in the ACT following the introduction of temperature compensation. The amendment came into operation on 6 July 2001 and most suppliers, with the exception of two major companies and one local distributors, are now complying with the amendment. Enforcement action has commenced with the non complying distributors and full compliance is expected shortly.

In relation to this amendment, the AIP has submitted that while it supports the principle of national uniform temperature compensation, it is concerned at the manner and detail of its implementation in the ACT. The AIP referred to the amendment to the legislation banning the passing on of the costs of temperature implementation, either directly or indirectly.

Consideration of wholesale price movements in isolation ignores the overall benefit which temperature compensation is expected to give to wholesalers/retailers. It is likely that temperature compensation would enhance competition at the wholesale level by improving the access by independents to temperature compensated fuel.

## BOX 2: Example of the financial impact of hot fuel

An oil company invoices a retailer for 30,000 litres of petrol measured at 40°C at 90 cpl. This would amount to $27,000 paid by the retailer to the oil company.

By the time the retailer on-sells the petrol to the motorist, the temperature has dropped to about 15°C and the volume of petrol available has reduced to 29,175 litres*, a difference of 825 litres, or 2.8% less product than is charged.

When the retailer on-sells the 29,175 litres to motorists at 95 cpl he/she receives $27,716.25. So the retailer receives $ 783.75 less** than would be the case if the fuel had not been received hot (at the prevailing wholesale price).

**Notes:** * Petrol expands and contracts at 0.0011 of its volume per degree Celsius variation.
** Including GST

## *Costs*

**Government**

There is likely to be a minimal additional cost to State and Territory Governments as a result of mandatory temperature compensation at the terminal. The main costs that would be incurred relate to government inspections at terminals.

This task is expected to be simple and straightforward as gantry flowmeters for filling delivery tankers at refinery/terminals are currently inspected under uniform trade measurement legislation of the States and Territories. Inspectors are already inspecting trade-measuring instruments at refinery/terminals but they currently do not look at the temperature compensation function used for Commonwealth excise purposes. This inspection task could be readily extended.

Consultation with Trade Measurement Victoria (TMV) indicates that the cost of the initial inspection to ensure technical compliance of measuring instruments for temperature compensation is estimated at a maximum of one week of a trade measurement officer's time, which amounts to approximately $2,000 (in Victoria). This could be extrapolated to a one-off national cost of a maximum $20,000.

Following the initial inspection, it is likely that up to four on-going inspections would be required annually. On-going inspections have been estimated to take up to one week of an officer's time. However, it is expected that this time would be absorbed into existing inspection arrangements and, therefore, would only impose a negligible additional cost on Government. The small number of audit points (refinery/terminals) assists the small time commitment expected to monitor compliance. Some State and Territory Governments may seek to recover inspection costs from industry through certification or other fees.

Other one-off costs to Government include:

- Drafting of regulations - Queensland would have responsibility for drafting uniform legislation (say $20,000).
- A marketing strategy to inform industry stakeholders on the progress and introduction of temperature compensation (say $40,000 @ $5,000 per State or Territory).

**Industry**

Given that temperature compensation is already undertaken at oil company terminals for excise purposes, temperature compensation can be achieved at the terminal level for trade measurement purposes with no additional capital cost associated with the purchase and installation of measuring equipment, as this equipment is already in place.

Some reprogramming of electronic measuring equipment at terminals may be required. There would be a nominal increase in costs associated with invoicing and costs arising from the ongoing inspection of measuring instruments. However, the costs to industry associated with changes to invoicing arrangements, such as the modification of delivery dockets generated from approved instruments have been identified by the AIP as being minimal.

Oil companies engage specialist businesses to certify gantry flowmeters that fill road tankers. Currently, the uniform test procedures for gantry flowmeters do not contain procedures for testing the temperature compensation function. It is expected that modified procedures may add up to ten minutes to the certification procedure for each gantry flowmeter. A gantry flowmeter could be expected to be certified up to four times per year at a minimal additional cost.

In relation to costs, the AIP submitted to the Victorian Government that "the cost of the development and implementation of the computer capability to record the temperature of fuel and produce invoices and delivery dockets that comply with temperature compensation means the cost structure of the industry has increased".

The AIP indicated that oil companies would seek to recover the higher costs through higher fuel prices. While a definitive estimate of the additional cost is not available, the cost would be unlikely to exceed $100,000 across the industry. This represents a very small proportion of industry turnover.

Temperature compensation at the refinery/terminal would deal with the recent problems experienced in relation to hot fuel deliveries. Given that temperature compensation is already undertaken at the terminal for excise purposes, it can be achieved at the terminal level with minimal cost to government and industry. It is estimated that the total cost of implementing the proposal would not exceed $200,000. The ongoing costs would be negligible.

The key benefits of temperature compensation are essentially distributional benefits and relate to improved equity between oil companies and fuel wholesalers/retailers by addressing the transparency and pricing issue.. Introduction would eliminate this market distortion, raising confidence in the market, reducing costs of transactions and disputations, thus increasing the efficiency of the market. It would also allay concerns held by the independents and the public about the integrity of measurements at the oil refinery/terminal.

As discussed in Section 3, the existence of independents is important to the competitive fuel market in Australia. Enhancing transparency of pricing should improve the negotiation position of independent retailers/distributors and lead to increased wholesale competition. This may ultimately benefit motorists.

The ACCC has advised the Victorian Government that temperature compensation may lead to lower prices. The Commission believes that a measure that promotes the competitiveness of the independents could result in more discounting by independent operators,

especially in the capital cities where they have a greater presence.

The modest costs involved with Option 1 as compared to these potential benefits suggest that the proposal would generate a net benefit to the community.

## Summary: Costs and Benefits OPTION 1

### Costs

**Government**

- Φ Inspection costs maximum $20,000 per annum.
- Φ Drafting of regulations, say $20,000.
- Φ A marketing strategy to inform industry stakeholders on the introduction of temperature compensation, say $40,000.

Total costs to government less than $100,000.

**Industry**

- Φ Developing the computer capability to produce invoices and delivery dockets that comply with temperature compensation - maximum $100,000.
- Φ Ongoing inspection of measurement instruments - negligible.

Total costs to industry less than $100,000.

### Benefits

- Φ Economic efficiencies due to transparent market information about the measurement of fuel.
- Φ Distribution benefits – temperature compensation may benefit the major independents by improving their negotiation position with oil companies, thus improving their competitiveness. This may produce benefits that flow on to motorists.

### How will the proposed scheme operate

Using the example provided above in **Box 2** on page 19, temperature compensation at the refinery/terminal would involve the measurement of both the temperature and volume of fuel loaded for delivery to the retailer with the fuel volume being temperature corrected to 15°C. That is, the fuel volume loaded is adjusted downward from 30,000 litres @ 40°C to 29,175 litres @ 15°C. As a consequence the retailer is invoiced for 29,175 litres and faces no financial loss from the reduction of fuel volume available for on-selling due to temperature reduction.

# OPTION 2: Non-regulatory alternatives

An alternative to the proposed approach is to seek a solution to the problem that does not require government intervention. Option 2 is the consideration of non-regulatory measures to achieve the objective. Included here is a consideration of the status quo (including possible action under trade practices legislation), to allow a more thorough assessment of the nature of the problem and the impact of current arrangements on the various affected parties. A voluntary scheme is also considered as a non-regulatory alternative.

## (a) Status Quo

If the status quo were to continue, governments would retain the option to consider other means of introducing temperature compensation, including a voluntary approach by industry. If a voluntary approach later proved to be ineffective, then legislation could be reconsidered. This approach also has the benefit of enabling time for further rigorous assessments of the costs and benefits of temperature compensation on both wholesale and retail transactions.

However, the issue has been around for some time and industry has failed to introduce measures to resolve the matter. The status quo ignores what the community perceives to be a significant problem, which is detrimental to small businesses, and ultimately, the motorist.

Under the current legislative framework, it could be argued that the *Trade Practices Act* 1974 (TPA) might be able to deal with this issue. For example, excessive use of market power might manifest itself as "unconscionable conduct" or "misuse of market power" on the part of one of the transacting parties - both of which are covered by provisions in the Act. If there is "deception", this is also covered in the Act.

The prohibitions in the Act against misleading and deceptive conduct and false representations are problematic in the context of the hot fuel problem. Unless there was a representation that fuel supplied by a refiner would be measured at a particular temperature, it might be difficult to characterise the conduct of a refiner that supplies fuel measured at the time of supply as misleading, deceptive or false simply because at a later time the quantity might decline because it cooled.

However, if there was a genuine issue as to the unfairness of hot fuel deliveries and the refiner refused to negotiate in good faith with an independent fuel reseller over the issue, it may be possible to characterise such conduct as unconscionable. Section 51AC of the TPA deals with unconscionable conduct in commercial dealings. Four of the listed matters that a court may consider in determining whether conduct is unconscionable under this section are:

- the relative bargaining strength of the parties;
- the willingness of the supplier to negotiate with the purchaser;
- whether other purchasers are treated differently; and
- whether the supplier (and purchaser) acted in good faith.

However, the cost of instigating Section 51AC proceedings and the uncertainty of any outcome, would be a detriment to most firms.

The TPA also prohibits a supplier using its market power for the purpose of damaging the competitiveness of a purchaser, or

colluding with competitors to lessen competition in a market. While independent fuel resellers may lose money when they pay for fuel they do not receive, it has not been suggested that refiners have this purpose when engaging in the practice of measuring fuel at the time of supply. Nor has it been suggested that there is some anti-competitive arrangement between refiners to supply hot fuel or to refuse to institute temperature compensation.

In summary, litigation under the TPA provides a limited, problematic and expensive basis for resolving the issue.

## (b) Voluntary Code of Conduct

Government intervention to address a market problem generally falls under the banner of either regulatory or non-regulatory measures. The key consideration is the magnitude and nature of the problem and the opportunity to apply non-regulatory options such as voluntary compliance.

In the case of the hot fuel problem, there is a strong perception in the community that temperature variation from refinery/terminals is impacting negatively on fuel wholesalers/retailers and ultimately motorists. The issue has existed for some time and the industry has to date failed to introduce any voluntary measures to deal with it, in spite of publicity and action by service station proprietors.

Due to the unequal bargaining position between individual fuel resellers and oil companies, it seems unlikely on current evidence that an outcome could be achieved through private negotiations. Legal action would not be cost effective particularly given the extent of legal costs relative to the benefits and associated risks involved.

## Summary: OPTION 2

In spite of approaches to the companies and publicity, even large independents have been unsuccessful in being able to negotiate access to product on a temperature compensated basis. Nor does the TPA and State and Territory Fair Trading Acts provide an adequate or inexpensive basis for redressing the problems experienced by independent fuel resellers over hot fuel.

## OPTION 3: Temperature compensation at both refinery/terminals and depots

Under the proposed regulation, the larger and, in many cases, company owned sites and depots, would receive temperature compensated fuel from refineries, while the smaller independent and country retailers would be supplied "uncorrected" fuel from depots at the ambient temperature. This ambient temperature may be higher than the standard adopted for temperature compensation.

Retailers that receive their deliveries from terminals could be seen as better off than those that receive deliveries from depots. Thus, this arrangement could be seen as discriminating against smaller retailers that receive fuel supplied from depots.

Option 3 is an alternative to mandatory temperature compensation at refinery/terminals, extending this requirement to also apply to fuel delivered from depots.

### *Benefits*

The proposal has the benefit of addressing the perceived imbalance in country areas between retailers which receive fuel deliveries direct from terminals, which would be at temperature compensated volumes, and retailers which receive fuel from depots, which would not be temperature compensated. However, this is only a problem if hot fuel is delivered from depots.

The benefits of temperature compensation from depots would be likely to be very small, as it is only ambient temperature variations for which temperature would be corrected. A survey by APADA in Southern NSW and ACT in relation to fuel temperature variation at depots found over a three year period from 1994 to 1997, an average temperature gain of only 0.008% for fuel delivered from depots to retailers.

### *Costs*

If temperature compensation were brought in across the wholesale market the only practical method of measurement would be temperature-compensating gantry flowmeters at depots and flowmeters on trucks delivering partial compartment loads from depots. Vehicle tanks with dipsticks would be inadequate for the task. Vehicle tanks would only act as tanks to transport the fuel, as is the case with vehicle tanks being filled at refineries/terminals. Partial compartment drops that currently occur using tanks with dipsticks would need to be measured using a temperature-compensating truck-mounted flowmeter.

As very few depots currently use gantry flowmeters, many would need to install this equipment. Equipment costs have been estimated based on inquiries made by Trade Measurement Victoria with equipment manufacturers. Estimates of the likely size of the industry that would be impacted have been prepared on the basis of discussions with AIP and APADA. Using these estimates, the potential costs of new or upgraded flowmeter equipment at depots and on trucks is estimated to be in the range of $56m to $90.5m, depending on whether or not temperature-compensating equipment is installed on trucks. These costs are detailed in the **Box 3**. There would also be additional costs in relation to administration and invoicing.

A device for measuring the temperature of fuel during volume measurement by a flowmeter or vehicle tank is available for use on depot delivery trucks. The device

holds National Standards Commission pattern approval. However, the practicalities of using the device may restrict its adoption by depot operators and, therefore it is not considered a practical alternative to temperature-compensating gantry flowmeters that automatically compensate without operator input.

Aside from equipment costs, a mandatory requirement to install temperature-compensating equipment at depots would impose costs on industry in terms of:

- Labour costs – temperature compensation on delivery trucks would be a labour intensive activity;
- Costs of calibration and on-going maintenance of equipment; and
- Training costs.

The above costs for upgrading and operating equipment would be spread over fuel sold out of distributors' depots that handle about 5 % – 10 % of the total volume of fuel in Australia. These costs would be likely to accelerate the current trend of depot closure and rationalisation being experienced in most States. There are currently an estimated 7,000 people employed in about 600 depots across Australia. Temperature compensation to the depot level could threaten employment in this sector, which is mainly concentrated in the regional areas.

This alternative may add to the costs of small retailers if the retailer normally takes less than full compartments from depots in terms of fuel stock holding costs. There is also the possibility that a depot will not supply less than a full compartment drop because of the costs of re-equipping trucks with temperature-compensating flowmeters. This could potentially hasten the rationalisation of rural and regionally based service stations. There is also the potential for the additional costs to flow to rural motorists through higher fuel prices

## BOX 3: Cost of upgrading equipment at depots

**Cost estimate of new or upgraded flowmeters at depots and on trucks delivering from depots to achieve temperature compensation from depots**

| **Depot Upgrade**: | **Cost** |
|---|---|
| Φ Assume there are 600 depots in Australia, of which only 20 have temperature compensation equipment installed.<br>Φ Assume each depot would need equipment installed at 4 points. Inquiries indicate a depot upgrade cost of $75,000 to $100,000. | $43.5m to $58m. |

| | |
|---|---|
| **Truck Upgrades**<br>Φ Assume trucks operated by distributors out of the depot would need temperature compensation equipment installed for delivery of part loads.<br>Φ Assume there are 2,500 trucks throughout Australia.<br>Φ Assume each truck would need equipment installed at two points for diesel and petrol.<br>Φ Inquiries indicate a truck equipment upgrade cost would be $5,000 to $13,000. | $12.5m to $32.5m. |
| **TOTAL COST OF UPGRADES** | **$56m to $90.5m.** |

The alternative of immediate adoption of temperature compensation to the depot level entails significant costs, estimated to be as much as $100 million in set-up costs with significant on-going costs of monitoring by government. Given that the benefits of the proposal are only small, this alternative is rejected on cost benefit grounds.

Any inequities between retailers who receive temperature-compensated fuel direct from the refinery/terminals and those who receive "uncorrected" deliveries from depots would only arise if the fuel purchased and delivered from depots is hot. Evidence suggests that product that has gone into depot storage is likely to have cooled, and the temperature would be near to ambient when delivered to service stations from depots. If fuel is purchased and delivered from depots at ambient temperatures, then the retailer is not disadvantaged in terms of the volume of fuel purchased and available for sale.

Moreover, if this regulatory approach were adopted, there could be a significant impact on depots with a hastened trend to depot closures and associated employment loss. The additional costs to industry would be expected to on flow as increased prices to retailers in regional and rural areas. Rural economies would face the risk of increased prices, increased unemployment and loss of services.

## Summary: Costs and Benefits OPTION 3

### Costs

**Costs to Government**

Φ Substantial costs to Government to monitor and enforce legislation.

**Costs to industry**

- Φ Costs of new or upgraded flowmeter equipment at depots and on trucks are estimated to be $56m to $90.5m.
- Φ Costs of calibration and on-going maintenance of equipment and costs associated with training operators of the equipment.

### Benefits

- Φ Addresses the perceived inequity between retailers who receive temperature-compensated fuel direct from the refinery/terminals and those who receive deliveries from depots that would not be temperature compensated.
- Φ Small benefits of temperature compensation from depots, as it is only ambient temperature variations for which temperature would be corrected.

## OPTION 4: Temperature compensation phased-in at depots

A variation to the immediate introduction of temperature compensation across the wholesale level would be to introduce mandatory temperature compensation at refinery/terminals immediately and phased-in at depots over 5 to 10 years. The following benefits and costs of Option 4 are noted.

### *Benefits*

The benefits of the phase-in at the depot level are:

- Φ Reduced capital costs if temperature compensation equipment is introduced as part of normal equipment replacement schedules.
- Φ Annual operating costs would also be incurred more gradually thereby imposing a lesser burden on distributors operating depots.
- Φ The expected rationalisation and closure of depots would occur more gradually thereby giving local rural economies time to adjust to employment and service consequences.

### *Costs*

- Φ The costs are as for Option 3, but phased-in gradually.
- Φ Perceived inequities in the marketplace would only be addressed gradually.
- Φ There may be some confusion among retailers about which fuel purchases are temperature compensated and which are not.

### Summary: OPTION 4

The alternative to phase-in temperature compensation at the depot would entail similar costs to immediate introduction, and possibly reduced capital costs if temperature-compensating equipment is introduced as part of normal equipment replacement schedules. The expected

detrimental impact on the viability of depots would occur more gradually, thereby giving local rural economies time to adjust to employment and service consequences.

However, the perceived inequities in the marketplace would only be addressed gradually and there may be some confusion among retailers about which fuel purchases are temperature compensated to volume at a standard temperature. Moreover, as noted above, the benefits of temperature compensation at the depot level would be minimal given that product that has gone into depot storage is likely to have cooled, and the temperature would be near to ambient when delivered to service stations from depots.

# OPTION 5: Temperature compensation at all wholesale and retail sites

Option 5 is to introduce temperature compensation at all wholesale and retail sites. This alternative would address the concerns of fuel wholesalers, retailers and motorists that temperature variations in fuel disadvantage them.

## *Nature and extent of the problem*

The nature of the problem that this alternative seeks to address includes the primary problem of hot fuel for wholesalers/retailers, as well equity problems for motorists stemming from regional, seasonal and daily variations in the ambient temperature of fuel.

The relative merits of the alternative of introducing mandatory temperature compensation at all wholesale and retail sites has been assessed by various studies over the 1990's. The main emphasis of these studies has been on the merits of introducing temperature compensation throughout the *whole* industry. It is appropriate to draw on the findings of these extensive, but somewhat dated, studies to determine the extent of the problem and the likely order of magnitude of the costs of introducing temperature compensation to the retail level.

Various estimates have been made of the extent of fuel temperature variations in Australia and the costs of introducing temperature compensation to the retail level. The focus has been on establishing the average retail temperature of fuel sold and its deviation from the international reference temperature of 15°C. The key studies are described below:

- In 1989, an investigation by weights and measures inspectors for the Standing Committee on Trade Measurement found that the temperatures of retail fuel sales ranged from 5.8°C to 38°C with an average temperature of 23°C and the greater proportion sold above 15°C.
- The NSC has found that the temperature of retail sales varied from 6°C to 35°C and that the average temperature was 20°C.
- In 1996, the CSIRO found that the estimated national mean delivery temperature of petrol to service stations was 20.3°C, and that the estimated national mean sale temperature of petrol to motorists was 21.7°C.

The temperature of fuel at the retail level does not impact equally on motorists across Australia. According to CSIRO data, State deviations from the estimated mean Australian retail sales temperature range from negative 6.1°C in Tasmania to plus 9.3°C in the Northern Territory. This data is shown in **Box 4**.

Consequently, in terms of the energy value of a litre of fuel, motorists in regions with relatively warmer ambient temperatures face relatively higher petrol costs, while motorists in regions with relatively cooler ambient temperatures enjoy relatively lower costs. Therefore, the benefits of temperature compensation would impact differently on motorists in different States and Territories.

While such temperature studies indicate there is an inequity between motorists, there is also arguably an inequity between motorists and fuel sellers, to the extent that the average selling temperature of 21.7°C (in 1995) is higher than the industry's reference temperature of 15°C.

There is also a question of whether or not the current "hot fuel" problem has increased average *retail* sales temperatures since these earlier studies. Current data on retail fuel sales temperatures is not available. However, it seems likely that fuel would cool to ambient temperatures in transit from the refinery, and when mixed with other fuel in storage tanks.

## Benefits

The benefits of the proposal relate to providing a more equitable market for wholesalers, retailers and motorists. It provides a consistent application of temperature compensation requirements throughout the downstream petroleum industry. The benefits of temperature compensation for sales *to* the wholesaler/retailer level have been discussed above.

On the surface, temperature compensation at the retail level would benefit motorists in States where the ambient temperature is higher on average than the benchmark temperature adopted (say the current 15°C Australian Standard or an Australian average). Motorists in States where the ambient temperature is on average lower than the benchmark would not benefit. However, the costs of implementing temperature compensation would be passed on to all motorists. The overall costs of introducing temperature compensation to the retail level will determine whether or not there is a net benefit to motorists.

## Costs

It is practical for this RIS to draw on the relatively recent and extensive cost studies to demonstrate the order of magnitude of the costs of introducing temperature compensation to the retail level across Australia. Estimates of these costs vary considerably.

The NSC estimated in the early 1990's that the cost of implementing temperature compensation at the retail level was "insignificant", at around $50 million over 5 years or $10 million over 10 years. However, a report prepared for AIP by Access Economics on the temperature

### BOX 4: CSIRO Estimated Regional Temperature Variations

| Region | Average Sale Temperature °C | Variation from National Average °C | Variation from the (15 °C) Reference °C |
|---|---|---|---|
| National | 21.7 | - | 6.7 |
| ACT | 18.3 | -3.4 | 3.3 |
| NSW | 21.8 | 0.1 | 6.8 |
| NT | 31.0 | 9.3 | 16.0 |
| Qld | 26.1 | 4.4 | 11.1 |
| SA | 20.4 | -1.3 | 5.4 |
| Tas | 15.6 | -6.1 | 0.6 |
| Vic | 19.5 | -2.2 | 4.5 |
| WA | 23.5 | 1.8 | 8.5 |

**Source:** AIP Issues Paper in response to the CSIRO Volume – Temperature Profile Study 1996

compensation issue concluded that "the principal argument against requiring temperature adjustment at the retail service station level is that it could impose hundreds of millions of dollars in capital costs for refits and new installations without consummate benefits."

Access Economics contention is that the central argument for temperature compensation is an equity argument and not intrinsically an efficiency argument: that is, the "benefits" of temperature compensation are essentially distributional benefits.

The AIP, in response to the CSIRO temperature study, released a report in 1996 that estimated that the cost to industry of implementing temperature compensation at both the wholesale and retail levels would be $300 million in capital costs and $50 million per year in operating costs (1996 dollars). The AIP estimated that the average cost to the motorist of temperature compensation would be likely to exceed $12 per year.

The NSC believes that the AIP's figures represented a gross over-estimate of the true costs and have a far more sanguine view of the costs of introducing temperature compensation. In 1996, the Commission "has concluded that the full cost of phasing-in temperature compensation in an orderly manner at both wholesale and retail levels would certainly be no more than a total of $15 million, expended over a period of more than ten years" (NSC Leaflet No 9, April 1996).

While the cost of temperature compensation at the pump is the subject of disputed estimates, it is reasonable to conclude that the costs of either immediately introducing or phasing in temperature compensation to the retail level are likely to be significant. This RIS estimated that immediate introduction to the wholesale level alone would entail costs of between $56 million and $90.5 million.

The costs of purchasing and maintaining temperature-compensating equipment at the retail service station level would be considerably in advance of this. It would require service station operators to refit fuel pumps by installing a temperature-measuring probe and to modify the fuel pump computer. The equipment would then require certification. These costs are likely to be passed on to the motorist. The cost of monitoring compliance would be passed on to the taxpayer.

The benefits of temperature compensation to the retail level are essentially "distributional" benefits. While the proposal for temperature compensation at the retail level would address these equity questions, it is the net cost of achieving this that is critical. The benefit of temperature compensation has to be set against the costs of a more accurate measurement system. In the case of implementing temperature correction to the wholesale and retail level, these costs are likely to be considerable. It is estimated that the immediate introduction of temperature compensation would impose costs to government (enforcement and monitoring) and industry (equipment costs) of at least $56 million.

Phasing-in the implementation of the proposal would alleviate these costs somewhat. As noted above, the NSC in 1996 concluded that the full cost of phasing-in temperature compensation in an orderly manner at both wholesale and retail levels would certainly be no more than a total of $15 million, expended over a period of more than ten years. However, this approach would suffer other shortcomings. If there were a requirement that temperature compensation apply to new units at the retail level, the perceived inequities in the marketplace would only be addressed gradually. There may also be

confusion among motorists and retailers about which fuel purchases are temperature compensated to volume and which are not.

In this regard, the IC has noted that the "piecemeal introduction of temperature correction could lead to considerable consumer confusion … temperature corrected and non-corrected petrol may be sold from pumps side-by-side at one service station" (Inquiry Report 1994, p247). The Commission's view was that the confusion that would accompany a phased introduction could deny the initial purpose of the proposal, which is to provide for uniform trade measurement throughout Australia. However, it is unclear how consumers would react to some pumps being temperature compensated and others not compensated.

It is likely that increased costs stemming from temperature compensation to the retail level would be passed on to motorists as increased fuel prices. Moreover, industry investment would be focussed on temperature compensation and away from alternative investment, such as exploration and upgrading of refineries, which may be of more benefit to industry and the community. There would be substantially increased costs to Government to monitor and enforce compliance.

## Summary: Costs and Benefits OPTION 5

### Costs

**Costs to Government**

Φ Substantial costs to Government to monitor and enforce legislation.

**Costs to industry**

Φ The costs of *immediate* introduction of temperature compensation to the retail level are estimated to be considerably in excess of the minimum $56m estimated for introduction to the wholesale level.

Φ The AIP has estimated costs to be of the order of $300m in capital costs and $50m in operating costs. These costs would reduce if temperature correction were *phased in*.

Φ Industry investment on temperature compensation could redirect investment away from alternatives such as exploration and upgrading of refineries, which may be of more benefit to industry and the community.

Φ It is likely that increased costs stemming from temperature compensation to the retail level would be passed on to motorists as increased fuel prices.

### Benefits

Φ Provides a more equitable market for wholesalers, retailers and motorists.

Φ Provides a consistent application of temperature compensation requirements throughout the downstream petroleum industry.

# 7 Conclusion and Recommended Option

The objective of the regulatory proposals assessed in this RIS is to "increase the transparency of volume measurement and pricing of petrol and diesel fuel within the oil industry". The proposal seeks to address the problem of distributors and retailers being supplied short-measure fuel by oil companies by requiring invoices to be calculated by volume at a specified temperature, thereby creating certainty of the actual volume of fuel paid for and received.

It is apparent that the hot fuel issue has existed for some time and, in spite of publicity and action by service station proprietors, the oil companies have to date failed to introduce voluntary measures which stakeholders view as dealing adequately with the problem. There is no indication that the problem would be reduced over time as renegotiated prices take into account the use of "just-in-time" supply.

Due to the unequal bargaining position between an individual fuel reseller and the oil company, it is unlikely that an outcome could be achieved through private negotiations. Legal action would not be cost effective particularly given the extent of legal costs relative to the benefits and associated risks involved. The costs of the regulatory approach are not significantly different to the alternative of industry self-regulation. Consequently, regulation is considered the appropriate measure to address these concerns.

Mandatory temperature compensation at refinery/terminals (Option 1) is proposed for adoption on the basis of its benefits exceeding costs. While Access Economics and the IC have emphasised the high costs of implementing temperature compensation through the industry, the costs of the regulatory proposal assessed in this RIS are relatively minor. It is clear that temperature compensation can be done at the refinery/terminal with minimal cost and significant potential benefit. The oil companies already have measuring equipment capable of temperature compensation for the purposes of calculating fuel excise.

Regulation of temperature compensation at oil company refineries and terminals would eliminate a significant market distortion, raising confidence in the market, reducing costs of transactions and disputations. It would create an environment that reduces uncertainty and risk by increasing price transparency. This would increase confidence in trade and general legal matters, and allay concerns held by independent wholesalers/retailers and the public about the integrity of measurements at the oil refinery/terminal.

Consultation with the industry would ensure that the least cost approach that delivers the outcome sought would be adopted. Moreover, the regulation of temperature compensation can be implemented through an extension of the principal trade measurement legislation. A monitoring and enforcement mechanism already exists for other trade measurements, and this can be readily extended.

Non-regulatory options were considered as Option 2. This approach is considered as unlikely to achieve the objective. The industry has been aware of the hot fuel problem for some time and voluntary compliance is assessed as unlikely to satisfactorily resolve the problem. Action under trade practices legislation provides a problematic and expensive means for resolving the issue.
Temperature compensation at the depot (Option 3) was assessed as a regulatory

alternative that would address perceptions of inequitable treatment of service stations that receive product direct from refineries and terminals and those receiving deliveries from depots. However, this alternative has a relatively high cost with limited benefit, given that hot fuel deliveries have been experienced from refineries and terminals, rather than from depots and the temperature variations between depot and service station are likely to be minor.

The cost of installing temperature-compensating equipment at depots would be significant and may lead to the rapid rationalisation and closure of depots, most of which are in regional and rural areas. Increased costs would add to the costs of rural retailers who receive fuel via depots, and would potentially flow through as additional costs to rural motorists.

A variation to this approach would be to introduce mandatory temperature compensation at refinery/terminals introduced immediately and phased-in at depots over 5 to 10 years (Option 4). This would entail the same costs, but phased-in gradually. However, it would reduce capital costs if temperature compensation equipment were introduced as part of normal equipment replacement schedules. The expected rationalisation and closure of depots would occur more gradually thereby giving local rural economies time to better adjust to employment and service consequences. Notwithstanding this, the costs far outweigh the benefits.

Fuel temperature measurement also creates an equity problem for motorists stemming from regional variations in ambient temperatures. The option of mandatory temperature compensation at all wholesale and retail sites (Option 5) to address this problem is not supported on the basis of the relatively high costs of implementation. This conclusion is supported by the extensive studies conducted to assess the cost benefit of introduction to all levels of fuel marketing. While the retail level problem means inequities across regional areas, the costs of achieving equity would be significant. Moreover, industry investment may be directed away from alternatives that may be of more benefit to the community.

Ministers for Consumer Affairs have previously determined that temperature compensation will not be mandatory at the retail level because the level of benefit does not justify costs. In 1996 the Ministerial Council on Consumer Affairs decided that the capital and ongoing costs of temperature compensation at the wholesale and retail levels outweighed any potential benefits to consumers and removed the item from the MCCA Strategic National Agenda.

It is important to note that the current regulatory proposal comes about primarily because of the changed production and marketing techniques that have led to hot fuel deliveries from refineries and terminals. This phenomenon has only occurred in recent years, and therefore the associated costs have not been considered in earlier technical studies or by MCCA when it previously considered the temperature compensation issue.

*Option 1: Temperature compensation at refinery/terminals is assessed as the best alternative on the basis of the negligible cost of implementation relative to potential benefits.* It would address the issue of perceptions held by independent operators that they are financially disadvantaged by paying for fuel that they do not receive, including paying excise on that fuel. There is the potential for benefits to flow to motorists. However, whether this is achieved would depend on the complex interaction of players at both the wholesale and retail level within the market.

# 8 National Competition Policy Assessment

In April 1995, the Commonwealth, States and Territories agreed to the implementation of the National Competition Policy. As part of the agreement, all jurisdictions have agreed to accept the guiding principle that legislation should not restrict competition unless it can be demonstrated that:

(a) the benefits of the restriction to the community as a whole outweigh the costs; and

(b) the objectives of the legislation can only be achieved by restricting competition.

The proposed regulations have been assessed in accordance with the Guidelines for the Application of the Competition Test to New Legislative Proposals and have been found not to confer any new restrictions on competition.

The proposal does not introduce new costs that could be considered to create a barrier to entry to the industry. It is expected that temperature compensation would enhance competition at the wholesale level by improving the transparency of market information and consequently the competitive position of independent fuel wholesalers/retailers in particular. This may flow on to greater price competition in retail markets.

# 9 Consultation

Consultation has been undertaken with all parties affected by the regulatory proposal. The views of the respective stakeholders follows:

## Government

Consumer affairs and trade measurement officials in each jurisdiction and the Commonwealth, as well as representatives from the Department of Industry, Science and Resources, have been consulted regarding the temperature compensation proposal. No jurisdiction is opposed to the proposal.

The Ministerial Council on Consumer Affairs recently agreed "in principle", to introduce temperature compensation to the Australian Standard temperature as set from time to time (or to 15 degrees Celsius subject to advice from the Parliamentary Counsel's Committee) for petrol and diesel fuel loaded at refineries and terminals across Australia. This agreement was subject to completion of a Regulatory Impact Statement demonstrating that the proposal is in the public interest, and approval by individual governments.

## Australian Competition and Consumer Commission

The ACCC recognises that temperature compensation would ensure transparency and certainty in a national market. The ACCC has advised the Victorian Government that the Commission recognises that temperature compensation will ensure transparency and remove some of the distortion in the market, especially if it is implemented on a national basis. The ACCC would be supportive of measures that increase the competitiveness of independent resellers.

## National Standards Commission

NSC officials are supportive of the Victorian proposal but recognise that it is a State and Territory legislative issue. However, the NSC has argued consistently for many years that, to ensure equity, temperature compensation should be introduced at the wholesale level and even at the retail level.

## Oil Companies

The AIP and its member companies (BP Australia Limited, Caltex Australia Petroleum Limited, Mobil Oil Australia Pty Ltd, the Shell Oil Company of Australia Limited – and Liberty Oil Australia), consider that it is not necessary to change the current basis for the sale of petroleum products. However, the Institute understands that the Government may wish to adopt a regulatory approach to address the perceived concern regarding temperature variations from refinery/terminals.

In these circumstances, the AIP has advised that industry believe that any proposals by jurisdictions to address temperature variation in a formalised manner should be undertaken on a national basis. The oil companies also maintain that any regulatory arrangements on temperature compensation should apply to all market participants wholesaling full tanker loads from refinery or import terminals.

The AIP has further advised that industry strongly recommend against any suggestion that temperature compensation should be imposed at other points in the supply chain beyond refineries and import terminals.

## Australian Petroleum Agents & Distributors Association

APADA considers that a refiner/supplier should temperature compensate product back to 15°C as it is loaded and sold onto road tankers from the seaboard storage facility. APADA believes that the majority of any temperature loss or gain occurs at the terminal and that if temperature compensation were required at the distributor level for on-sale to customers it would far out weigh any small benefit.

## Victorian Automobile Chamber of Commerce

The VACC considers that temperature compensation should apply to all wholesale sales, including sales from refinery/terminals and storage depots. If temperature compensation was mandatory at the refinery/terminal level only, not all fuel deliveries to service stations would be temperature compensated and service station proprietors would have difficulty to distinguish between deliveries that are temperature compensated and those that are not.

## Independent Petroleum Marketers Association of Australia

PMAA supports temperature compensation at the refinery/terminal. PMAA considers that distributors and retailers are financially disadvantaged when they are required to purchase and pay for fuel that is loaded at terminals at temperatures above the standard 15°C. These concerns have not been expressed with regard to deliveries from storage depots, as fuel temperatures are closer to ambient air temperatures.

## Royal Automobile Club of Victoria

The RACV is not opposed to the proposal but is concerned to ensure that any measures introduced to address the issues concerning the purchase and delivery of hot fuel do not result in higher fuel prices for motorists.

## Major Independent Wholesalers and Retailers in Victoria

Major independent distributors and retailers consulted in Victoria strongly support the introduction of temperature compensation at refinery/terminals and see it as a means of enhancing their profitability and competitiveness.

## Motor Traders Association of Australia

MTAA supports the temperature compensation of fuel at the wholesale level in order to address losses incurred by service station operators through "product shrinkage". The MTAA believes that all jurisdictions in Australia should follow the lead of the ACT Legislative Assembly, which has passed amendments to the Territory's *Fair Trading (Fuel Prices) Act* 1993 to provide for all wholesale deliveries of 2,000 litres or more to be done on a temperature-compensated basis. Moves to introduce temperature compensation of fuel at the retail level would be strongly opposed by MTAA.

# Attachment 1: Seaboard Terminals in Australia

| State/Territory | Company | Location | No. of Flowmeters | Litres |
|---|---|---|---|---|
| **Australian Capital Territory** | Nil | Nil | Nil | Nil |
| | | | | |
| **Queensland** | Caltex | Lytton | N/A | 1,693,562 |
| | Caltex | Townsville | N/A | 205,788 |
| | Caltex & Mobil | Gladstone | N/A | 188,287 |
| | Caltex | Cairns | N/A | 202,621 |
| | Caltex | Mackay | N/A | 112,879 |
| | Shell | Pinkenba | N/A | N/A |
| | Shell | Cairns | N/A | N/A |
| | Shell & BP | Gladstone | N/A | 342,000 |
| | Shell | Mackay | N/A | N/A |
| | Shell | Townsville | N/A | N/A |
| | Mobil | Mackay | N/A | N/A |
| | Mobil | Bundaberg | N/A | N/A |
| | Mobil | Colmsile | N/A | N/A |
| | BP & Mobil | Whitstanes | N/A | 2,130,000 |
| | BP & Mobil | Cairns | N/A | 358,000 |
| | BP & Mobil | Townsville | N/A | 284,000 |
| | BP | Mackay | N/A | 261,000 |
| | | | | |
| **New South Wales** | Caltex | Newcastle | N/A | 909,642 |
| | Caltex | Silverwater | N/A | 1,097,648 |
| | Caltex | Banksmeadow | 20 | 1,065 963 |
| | Shell & Mobil | Newcastle | N/A | N/A |
| | Shell & BP | Parramatta | 18 | 2,351,000 |
| | Mobil & BP | Botany | N/A | 824,000 |
| | Mobil | Silverwater | N/A | N/A |
| | Mobil & BP | Eden | N/A | 93,000 |
| | Mobil | Carumba | N/A | N/A |
| | BP | Newcastle | N/A | 205,000 |
| | Southern Oil Refining | Bomen | 5 | N/A |
| | | | | |
| **Northern Territory** | BP | Darwin | 16 | 241,000 |
| | Mobil | Darwin | 10 | N/A |
| | Caltex | Darwin | 7 | 41,323 |
| | Shell | Darwin | 20 | N/A |
| | | | | |
| | | | | |

| State/Territory | Company | Location | No. of Flowmeters | Litres |
|---|---|---|---|---|
| **South Australia** | Caltex | Port Lincoln | N/A | 36,930 |
| | Caltex | Birkenhead | N/A | 556,323 |
| | Shell | Birkenhead | N/A | N/A |
| | Shell | Port Lincoln | N/A | N/A |
| | Mobil | Birkenhead | N/A | N/A |
| | BP | Largs North | N/A | 521,000 |
| | | | | |
| **Tasmania** | Shell | Devonport | 5 | N/A |
| | Shell | Hobart | N/A | N/A |
| | BP & Mobil | Burnie | 6 | 94,000 |
| | Mobil & BP | Bell Bay | 12 | 158,000 |
| | Caltex | Hobart | 8 | 122,553 |
| | Caltex | Devonport | N/A | 115,699 |
| | BP & Mobil | Hobart | 8 | 183,000 |
| **Victoria** | Mobil &BP | Yarraville | 26 | 5,236,000 |
| | Shell | Newport | 20 | N/A |
| | Caltex | Newport | 20 | 1,848,616 |
| | Shell | Corio | 12 | N/A |
| | Trafigura | Hastings | 8 | N/A |
| | | | | |
| **Western Australia** | Shell | North Fremantle | 16 | N/A |
| | BP | Kewdale | N/A | 1,539,000 |
| | Mobil &BP | Perth | N/A | N/A |
| | BP | North Fremantle | 6 | 182,000 |
| | BP | Port Hedland | 10 | 306,000 |
| | BP | Geraldton | 8 | 110,000 |
| | BP | Broome | N/A | 67,000 |
| | Caltex | Fremantle | N/A | 893,562 |
| | Caltex | Albany | 4 | 58,075 |
| | Caltex | Port Hedland | 3 | 20,339 |
| | Caltex | Geraldton | N/A | 30,044 |
| | Shell | Albany | 7 | N/A |
| | Shell | Broome | N/A | N/A |
| | Shell | Wyndham | N/A | N/A |
| | BP | Esperance | 6 | 64,000 |
| | Shell | Esperance | 8 | N/A |
| | Shell | Geraldton | 7 | N/A |
| | Shell | Karatha | 9 | N/A |
| | Gull Petroleum | Kwinana | N/A | N/A |

***Source:*** This table was prepared using information provided by the Australian Institute of Petroleum (AIP) and Trade Measurement Victoria. Information on terminal locations and litre capacity was supplied by oil companies and the AIP. Information on number of flowmeters at terminals was provided by Trade Measurement Victoria

***Note:*** This table may not represent an exhaustive listing of all terminals in Australia.